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RE-OPENING OF THE SCHOOLS.

With the advent of October all four veterinary schools re-open for the winter session. Each, let us hope, will have a full class of new students, for we are not yet afraid of the overcrowding which is to render more difficult the practitioner's struggle for existence. Doubtless when motor cars become a success the veterinarian in towns will have some cause to grumble, but that day is not yet in sight. Meantime the increased value of stock, the general improvement in agriculture, and the ever widening demands of our colonies are sufficient reasons for having faith in the veterinary profession as a calling for young fellows possessing the necessary qualifications.

During the last few years a great change has been noticeable in the class of men entering the veterinary colleges. Probably the chief cause of the change is the matriculation examination. But the longer course of study, the increased cost, and the greater stringency of the examinations all tend to keep out the sons of the poorer men, who used to form the majority of students. We now have a better dressed man, with more education and manners—perhaps a more intelligent man. Certain it is that at examinations the men of the new four-years-course are greatly superior to the students of ten years ago. Whether they equal the old students in powers of application or of observation is a question we are not prepared to answer. There is a danger now of young men entering veterinary colleges direct from school and with no knowledge of animals. The sons of farmers, farriers, job masters, and veterinary practitioners, who formed a large proportion of the students of former days, are to some extent prevented from entering by the time and money required to ensure possession of a diploma. These men from their infancy were connected with animals, and came to College with a knowledge and taste which is essential, and which is not easily acquired later in life.

Our Council did well, when it re-organised the examinations, to insist on practical tests of efficiency in medicine and surgery. Perhaps even more important was it to enforce an examination in the second year which required knowledge of the general management and handling of all kinds of domestic animals. The veterinary profession will never be a calling for mere book-worms. Proficiency in the art is as necessary as in the science, and no man can master disease who does not understand the habits and functions of animals in health.

A FRACTURED PELVIS,

By R. C. IRVING, F.R.C.V.S.

This accident happened to a well-bred pony whilst being played Polo by the Earl of S——. The only account of the accident I could obtain was that the pony went suddenly dead lame when being turned at a gallop. No fall or collision occurred. With difficulty the animal was led to the stables and I saw it about two hours later. The intense lameness, inability to put weight on the limb, and absence of any other tangible lesion led me to a diagnosis of fractured pelvis, although movement gave no crepitus that I could hear.

The pony was slaughtered and a post-mortem examination of the bones disclosed a double fracture. When the pelvis was boiled and cleaned it was evident that the two fractures were not of the same date—one must have occurred some days before the other.

Both fractures extended into the obturator foramen of the off side. The older one was through the pubis, about an inch-and-a-half to the right of the symphisis. It showed some attempt at repair by soft material and the fractured ends, which were not displaced, looked more porous than the rest of the bone. The surfaces of the fracture at two points were rubbed smooth and bright, having an ivory appearance. The more recent fracture was through the neck of the ischium, about an inch behind the acetabulum, but splintered forward nearly to the crest of the ilium. The acetabulum was driven inwards so that the fractured extremity of the ischium rode on its outer surface, where it had caused slight polishing of the bone by contact in the short time the pony lived—I ought to say that slaughter took place thirty-six hours after the accident.

The explanation of the two fractures of different duration was only obtained some time after the post-mortem, in a conversation with the groom. To a remark of mine that the two fractures did not occur on the some day and that I could not understand one of them causing no lameness, he asked how long a time I thought had passed between them, I replied probably about a week, and he then said—"Oh, that is just it. The pony was lame after his last game, a week before, but we thought it was only a rick, and as it passed off his lordship thought he might safely ride him again."

I have no doubt this account explains the different dates of the fractures, and that the second one occurred by the weight of the animal in turning being thrown upon the acetabulum, the ischium snapping because the pelvis had not the support of the pubis in front. I am surprised both fractures did not occur at once

It is difficult to understand how rigid arches of bone like those surrounding the obturator foramen can be fractured singly. It is no uncommon thing to find two or three fractures occur simultaneously, This very fracture of the pubis and ischium is a common lesion, but I have met with fracture of the pubis extending into the obturator foramen as a single lesion and some very obscure lamenesses are traceable to it.

This case illustrates the rapidity with which hard smooth surfaces of bone may result from the the rubbing together of fractured ends, and it suggests how easily a serious lesion, causing but temporary lameness, may escape diagnosis. If the first fracture had been detected, and it might have been felt *per rectum*, the second might have been avoided by a long rest, although possibly the process of repair with its accompanying large bony swelling might have caused lameness later.

ABSTRACTS FROM FOREIGN JOURNALS.

A Case of Extensive Carbolic Acid Gangrene in a Dog.—By Prof. W. Lellman, New York.

At the beginning of the year a dog was brought to me with the history that he had fallen from the 3rd story of a house on to the flags, and from that time could no longer use his off fore leg.

A close examination made one conclude that the dog had sustained no very serious injuries; indeed, a fracture of the bone could not be discovered. A luxation or sprain of a ligament could not be detected. A muscular sprain could not be established in spite of the most careful examination. The right fore leg could not however be put down. All that could be detected was limited to increased warmth in the limb and hyperæsthesia, There was evidently some injury to the nerves, and as the dog fell sideways and on his shoulder it was probable there was bruising of the brachial plexus.

As forty-eight hours had elapsed before I examined the dog I advised Preisuitz's poultices (i.e., poroplastic or thick felt soaked in hot water) and friction with spirits of camphor. The lady who owned the dog allowed two weeks to pass by before she returned with him. The off fore arm then presented a terrible sight; up to the elbow joint the greater portion of the muscle had completely disappeared; the bare bones were visible, had a grey colour, and were quite dry, presenting the appearance of anatomical specimens. Caries was present at the elbow joint; those muscles still in union with the bone were affected with dry gangrene. On my asking the owner what she had been doing with the dog, she said she had applied poultices made with carbolised water several times daily to the dog. There could be no doubt that here there was gangrene from application of carbolic acid. It is a well known fact that dogs and cats are very susceptible to carbolic acid; but notwithstanding such cases often occur in practice although many other harmless and reliable antiseptics exist.

[We venture to doubt whether the carbolic acid in this case had any effect in causing the gangrene.—Ed. *V.R.*]

The Treatment of Congenital Herniæ with Zinc Chloride Injections.—*(Münisch Med. Wochenschr.)*

The treatment of congenital inguinal hernia with zinc chloride injections has been employed by Launelougne for eight months. It consists in the injection of chloride of zinc solutions round about the inguinal ring and canal. His object is to bring about a secondary closure of these openings. In *Le Bullet. Médic*, he describes the operation in which he now only uses a 10 per cent. solution.

Two cases were operated on on June 22nd. The inguinal canal was so much narrowed that the first finger could not enter it and on coughing the swelling could not be felt. The spermatic cord and testicles were quite intact, thus disposing of the fear that these would be injured by the injections. The results of these methods have quite answered the author's expectations and are far better than those recorded under the classical operation, and besides there is no danger of peritoneal complications.

Fracture of the Ribs in the Horse.—By Prof. Vennerholm, of Stockholm. *(Deutsche Zeitschrift für Thiermedicin.)*

The author relates two cases of fracture of the ribs healing without complication. Patient No. 1 only showed a little difficulty in moving forward. Local examination revealed crepitation. After eight days, the horse showed no more appearances of illness but was still allowed rest. Patient No. 2 exhibited laboured respiration, refused food and went lame on the near fore leg. Pneumothorax and emphysema were present. Apparently the pleura and lungs had been injured by the ends of the bone.

The horse remained eight days in slings and was then taken out of the clinique. Emphysema still continued and the horse needed chiefly careful treatment.

The last case shows that pneumothorax conditional with injury to the pleura of the lung is not dangerous to life. The air which obtains entrance into the pleural sac is cleansed of dust and germs by its passage through the respiratory tract. Far greater is the danger if the pneumo-thorax occurs through a thoracic wound.—*Berliner Thierärzt Woch.*

G. Mayall, Trans.

Anti-tetanus Serum.

M. Nocard, of the Alfort Veterinary School, has distributed 7,000 vials of his antiti-tetanus serum to "vets." throughout France during the last two years. This represents sufficient serum to treat 3,500 cases, each vial containing 10 c.c. Of 2,727 animals inoculated (mostly horses, mules, and donkeys), some 2,300 injections were made immediately after a surgical operation (castration, tail-docking, &c.), and not one case of tetanus was reported. Cases are cited where individuals, who regularly lost a dozen to forty horses per annum by tetanus, have now succeeded in avoiding this serious inconvenience by the use of M. Nocard's serum.—*Chemist & Druggist*, Paris Correspondent.

A REPORT UPON 250 CONSECUTIVE ADMINISTRATIONS OF CHLOROFORM TO CANINE PATIENTS.

By Frederick Hobday, F.R.C.V.S., Royal Veterinary College, London.

In *The Journal of Comparative Pathology and Therapeutics* for December, 1895, there was published an article upon the administration of chloroform to the dog and cat in which an endeavour was made to do away with the idea, which seems commonly held, that chloroform cannot be used as a general anæsthetic for the dog without very great risk. The following additional list of cases in which chloroform has been administered are published with the same intention, as I find that the above opinion is still firmly adhered to by many veterinary surgeons and medical men as well as by a great number of the public. The publishing of statistics bearing upon the subject must greatly help to dispel such an error and, by doing away with the fear of using chloroform, be of material benefit by the lessening of pain when operating upon canine patients. Nearly all the cases mentioned below formed part of the Free Clinique of the College during 1896 and this year and were anæsthetised and operated upon by the students of classes C and D; they were of various breeds, ages, and sizes, and in all kinds of condition. They were not in any way prepared and several were pregnant.

They were fixed upon the operating table in various positions; the abdominal one was generally chosen as being the safest and most convenient for the production of anæsthesia, the patient afterwards being placed as required. It will be seen, upon examining the list, that the operations were upon all parts of the body and of all kinds, some being very severe.

Several animals presented iodosyncracies, some being very susceptible and others the reverse. As a general rule, as might be expected, the finer and smaller breeds yielded to the anæsthetic quicker than the larger and coarser varieties. In one case (No. 70) a foxterrier, we were unable to produce anæsthesia after trying for 12 minutes with the apparatus, and eventually had to insert a piece of wadding containing chloroform in the end of the mask.

In three instances only had we to resort to antidotal measures (No. 49, 67, and 80). In cases 49 and 80 two minims of Scheele's hydrocyanic acid were placed on the back of the tongue within about thirty seconds of the cessation of respiration and artificial respiration applied, the animals being quite out of danger within 5 minutes. In case 67 all efforts at resuscitation failed, and a post-mortem examination revealed the cause of death to be a rupture of the portal vein; the animal was a very nervous, fat, aged pug, and I think chloroform cannot be charged as the cause of death. In a patient of this kind such an accident not uncommonly occurs as the result merely of struggling to free itself from restraint.

The apparatus used in 180 of the cases is the one (already described in *The Veterinary Record* for May 2, '96) which *sucks* a current of air over the surface of chloroform and forces a mixed vapour into the mask on the patient's face; the remaining 70 cases were anæsthetised by a second model (described in *The Lancet* for July 24th, 1897) which forces air over the surface of the anæsthetic and so sends a stream of mixed vapour into the mask. (*See illustration p. 167*).

The following were the cases anæsthetised by the pattern of apparatus which *sucks* the vapour into the mask:

Date.	No.	Breed.	Sex.	Age.	Condition.	Operation.	Time before anæsthetis'd	Time kept under.	Amount Chloroform used.
							Mins.	Mins.	
Jan. 2	1	Irish terrier	M	5 months	Good	Tracheotomy	11	15	1 drachm
„ 4	2	Blenheim span.	F	4 years	„	Removal of eyeball	7	3	1 dr. 20 mins.
	3	Fox terrier	M	3 „	„	Papilloma prepuce	2¼	19	—
„ 6	4	„ „	F	aged	Fair	Tracheotomy	5	52	—
„ 8	5	„ „	M	—	Good	—	5	5	30 minims
	6	„ „	F	8 months	Fat	—	4	16	—
„ 10	7	Old English sheep dog	„	aged	Good	—	6	97	—
„ 18	8	Fox terrier	„	8 months	—	Tracheotomy	4½	15	—
„ 23	9	„ „	M	5 years	Good	Operation on claw	5	8	1 dr. 45 mins.
„ 31	10	Collie	„	6 „	„	—	6	32	6 drachms
	11	Retriever	„	aged	Very fat	—	13	34	—
Feb. 13	12	Fox terrier	„	3 years	Fat	—	7	10	2 drachms
„ 17	13	Manchester ter.	F	aged	Very Fat	Removal of tumour	7	30	„
„ 18	14	Retriever	„	9 years	„ „	„ „ „	15	30	2 drs. 35 mins.
„ 19	15	Collie	„	5 months	Good	Ovarectomy	6	12	—
„ 20	16	Retriever	M	12 years	Very fat	—	4	5	—
„ 22	17	Fox terrier	F	—	Good	To examine skin	10	5	—
„ 26	18	„ „	M	3 months	„	Suture wound	5	5	—
„ 27	19	Deerhound	„	10 months	„	—	11	11	—
„ 28	20	Fox terrier	F	5 years	„	Operation for hernia	2	42	3 drs. 40 mins.

Date.	No.	Breed.	Sex.	Age.	Condition.	Operation.	Time before anæsthetised	Time kept under	Amount chloroform used.
							Mins.	Mins.	
Mch. 7	21	Pug	F	6 months	Good	To examine skin	40	30	2 dr. 40 mins.
„ 12	22	Pomeranian	„	5 years	Very weak	Laparotomy	1½	50	2 drachms
„ 14	23	Newfoundland	M	—	Good	Remove anal tumour	15	15	1 dr. 30 mins.
„ „	24	Irish terrier	F	7 years	„	Inguinal hernia	4½	30	2½ drachms
„ „	25	Fox terrier	„	6 months	„	Ovarectomy	3	11	3 drachms
„ „	26	„ „	M	4 years	„	For tumefied earflap	10	31	3 dr. 40 mins.
„ 16	27	„ „	„	18 mos.	„	To examine skin	5	5	2 drachms
„ 20	28	St. Bernard	„	3 „	„	Removal of tumour	6	10	„
	29	Fox terrier	„	—	„	To set fracture	3	25	6 drachms
April 7	30	Collie	F	aged	„	To remove claws	10	15	—
„ „	31	Fox terrier	F	„	Pregnant	To examine	4	30	—
„ 8	32	Boarhound	M	—	—	Laparotomy	—	30	—
„ „	33	Fox terrier	„	10 years	Very fat	Amputation of leg	—	15	—
„ 15	34	Manchester ter.	„	18 „	Poor	To examine	3	6	45 mimims
„ „	35	„ „	F	8 „	„	For inguinal hernia	8	31	2 drachms
„ 16	36	„ „	„	—	—	To examine wound	2	8	—
„ „	37	Pug	M	3 months	Good	To examine eye	1	1	—
„ 17	38	Manchester ter.	„	6 „	„	—	1	5	—
„ 27	39	Fox terrier	M	—	„	To examine skin	6	19	3 drachms
„ „	40	„ „	F	—	Very fat	Ovarectomy	3	30	3 dr. 20 mins.
„ „	41	„ „	„	—	Poor	„	2	12	2 drachms
May 5	42	„ „	M	—	Good	Reduce umbilical her.	4½	11	1 dr. 40 mins.
„ 12	43	„ „	F	18 mos.	Poor	—	—	12	2 drachms
„ 13	44	„ „	M	12 „	Good	To examine	4½	13	—
„ 20	45	„ „	F	3 years	„	Ovarectomy	5	11	2 drachms
„ 22	46	Bulldog	M	2 „	Poor	Trephine skull	6	25	2½ „
„ 26	47	Fox terrier	F	2 months	Good	To set fractures	2	11	1 dr. 20 mins.
„ 31	48	St. Bernard	„	3 years	„	To remove tumours	—	15	—
June 1	49	Schipperke	„	10 weeks	„	Amputation	1½	12	35 mimims
„ „	50	„	M	10 „	„	Suture wound	2-10	10	„
„ „	51	„	„	12 „	„	„ „	2-25	9	20 „
„ 2	52	Retriever	„	17 years	Poor	„ „	8	15	2½ drachms
„ 4	53	Fox terrier	F	12 weeks	Good	—	3	3	—
„ 6	54	„ „	„	9 „	Very fat	—	3½	12	1 dr. 55 mins.
„ 8	55	Retriever	„	aged	Fat	Remove tumours	—	70	—
„ „	56	Fox terrier	„	13 weeks	Good	—	6	6	55 minims
„ „	57	Whippet	M	22 mos.	„	For fracture	6	32	2 dr. 40 mins.
„ 9	58	Fox terrier	F	18 „	Very fat	To examine	5	9	55 minims
„ 11	59	Wire-haired ter.	M	10 weeks	„ „	To clip claws	1½	6	30 „
„ „	60	Fox terrier	F	13 „	Good	Operation on tail	5	9	52 „
„ 12	61	„ „	M	10 mos.	Fair	Reduce disloc hip joint	5	10	1 dr. 40 mins.
„ 13	62	Boarhound	„	12 „	Good	To dress wound	7	8	25 minims
„ 15	63	„	„	12 „	„	„ „	4	15	—
„ „	64	Retriever	„	4 years	„	Operation on tail	4	14	3 drachms
„ „	65	Fox terrier	F	5 months	„	Removal of eye-ball	2	3	—
„ „	66	Toy Manchester terrier	„	aged	Very fat	To examine eyes	2½	10	2 dr. 50 mins.
„ 16	67	Pug	„	—	„	For vaginal tumour	2	1	55 minims
„ 17	68	Boarhound	M	12 mos.	Good	To dress wound	8	5	2 drachms.
„ 20	69	Italian greyh'nd	„	10 weeks	„	To reduce fractures	3	5	1 dr. 20 mins.
„ 25	70	Fox terrier	„	3 years	„	To remove tumour	12	13	2 dr. 45 mins.
„ 29	71	Maltese terrier	F	aged	Very fat	„ „	6	7	1½ drachms
July 2	72	Fox terrier	M	18 years	Fat	—	4	6	1 dr. 20 mins.
„ 7	73	„ „	„	18 mos.	Good	To examine wound	6	9	2 dr. 25 mins.
„ 7	74	Pug	F	15 mos.	„	Ovarectomy	2	21	2 dr. 10 mins.
„ 16	75	Fox terrier	M	2 years	Fair	Operation on claws	4	2	—
„ 18	76	Maltese terrier	„	aged	Fat	—	3	7	40 minims
„ 21	77	Schipperke	„	4 months	Good	Amputation	1¾	18	1½ drachms
„ „	78	Fox terrier	F	3 years	„	For inguinal hernia	3	23	3 „
„ 22	79	Same bitch	—	—	—	2nd operation for same	3	40	4 „
„ 30	80	Pug	„	3 years	Fat	Ovarectomy	1½	4½	—
Aug. 8	81	Wire-haired ter.	M	10 weeks	„	For Röntgens Rays	2½	7	45 minims
„ „	82	Same dog	—	—	—	„ „	2	6	50 „
„ 9	83	Toy Manchester terrier	„	3 years	Good	Castration	2	2	40 „
„ 12	84	Fox terrier	F	aged	Pregt.—very fat	For Röntgens Rays	2¼	18	2 drachms
„ 13	85	„	„	9 months	Good	Examine teeth	2	7	1 dr. 15 mins.
„ 17	86	Collie	M	3 years	„	Removal of patella	10	18	4 dr. 20 mins.
„ 22	87	Fox terrier	„	3 „	Very fat	Castration	5	4	2 drachms
„ „	88	Wire-haired ter.	F	aged	„	—	1½	4½	—
Sept.:	89	Fox terrier	M	—	—	—	2	10	—

Date.	No.	Breed.	Sex.	Age.	Condition.	Operation.	Time before anæsthetised	Time kept under.	Amount chloroform used.
							Mins.	Mins.	
Oct. 3	90	Fox terrier	M	2 years	Good	Remove aural tumours	3	29	2½ drachms
,, 14	91	,, ,,	,,	4 ,,	Fat	For hæmatoma of earflap	5	4	1 dr. 20 mins.
,, 17	92	Bull terrier	,,	2 ,,	Good	Removal of tumour	—	10	3 drachms.
,, 23	93	Fox terrier	,,	16 ,,	Fat, intermittent heart beats	To examine eyes	6	7	3 ,,
,, 26	94	,, ,,	,,	3 ,,	Good	To reduce fracture	5	8	—
Nov. 10	95	Retriever	,,	9 months	Poor	To examine	3	14	2½ drachms
,, 11	96	Spaniel	,,	2 years	Very poor	Laparotomy	2	27	3 ,,
,, 20	97	Fox terrier	,,	1 ,,	Good	—	3	4	40 minims
Dec. 5	98	,, ,,	,,	6 months	,,	To examine	2½	13	2 dr. 20 mins.
,, ,,	99	,, ,,	,,	2 years	,,	—	1½	3	1 drachm
,, ,,	100	,, ,,	,,	3 ,,	,,	—	3½	7	2 ,,
,, 12	101	,, ,,	,,	12 months	Very poor	—	1	27	1 dr. 40 mins.
,, ,,	102	Wire-haired ter.	F	4 years	Good	—	1½	11	2½ drachms
,, ,,	103	Fox terrier	M	9 months	Very poor	—	1½	20	1 dr. 25 mins.
Jan. 13	104	,, ,,	,,	—	Good	—	2½	10	1 drachm
,, 16	105	Toy bull terrier	,,	3 ,,	3¼ lbs weight	—	3	40	—
,, 18	106	Mastiff	,,	aged	Good	Castration	9	—	—
,, 19	107	Manchester ter.	F	,,	Poor	—	3	6	50 minims
,, 21	108	Collie	M	3 months	—	Castration	1½	5	40 ,,
,, 25	109	Irish terrier	F	9 ,,	Good	Ovarectomy	4½	34	1 dr. 35 mins.
Feb. 22	110	Dachshund	,,	3 years	Fat	For Inguinal hernia	2½	36	3 dr. 10 mins.
,, 25	111	Greyhound	M	aged	Poor	Amputation of tail	2	5	1½ drachms
,, 24	112	Bull terrier	,,	3 years	,,	,, Rectum	4	9	—
,, 27	113	Fox terrier	F	7 months	Good	Ovarectomy	10	30	2½ drachms
Mch. 4	114	,, ,,	M	8 ,,	Poor	Umbilical hernia	4	13	1 dr. 35 mins.
,, 9	115	Pug	F	11 years	Very fat	—	4	2	50 minims
,, 11	116	Collie	,,	2 ,,	Good	Reduction of fracture	6	12	3 dr. 40 mins.
,, ,,	117	Fox terrier	,,	12 ,,	Fat	Removal tumours	2¾	50	2½ drachms
,, 12	118	,, ,,	M	—	Good	—	3	5	2 dr. 15 mins.
,, 29	119	Schipperke	,,	12 months	,,	Amputation	4½	15	1 dr. 25 mins.
,, 30	120	Fox terrier	,,	2 years	Poor	Lance abscess	3½	25	2 dr. 10 mins.
April 7	121	,, ,,	F	aged	Fat	Removal tumours	3½	25	—
,, 9	122	Manchester ter.	M	15 years	—	—	3½	6	—
,, 13	123	Pomeranian	,,	aged	—	—	2½	8	—
,, ,,	124	St. Bernard	,,	3 months	Good	Reduction hernia	3	12	2 dr. 40 mins.
,, ,,	125	,, ,,	F	,, ,,	,,	,, ,,	4½	35	3 dr. 40 mins.
,, ,,	126	French poodle	,,	aged	,,	Currette vagina	4	10	—
,, 15	127	Fox terrier	,,	12 years	,,	Lance abscess	3½	6	1½ drachm
,, ,,	128	,, ,,	M	—	Very poor	Dress wound	5½	30	—
May 10	129	,, ,,	,,	—	Good	,, ears	5	10	—
,, 12	130	Wire-haired ter.	,,	aged	Very fat	Laparotomy	5	30	—
,, ,,	131	Pug	,,	8 weeks	Good	Reduce fractures	45s.	5	40 minims
,, 25	132	Manchester ter.	F	12½ years	Very asthmatic'l	Remove tumour	3	15	1½ drachms
April 17	133	Fox terrier	M	10 months	Good	—	4	16	1 ,,
,, ,,	134	,, ,,	,,	5 ,,	,,	—	2½	12	1 dr. 40 ms.
,, ,,	135	Wire-haired ter.	F	6 ,,	Poor	—	3	28	3 ,, 20 ,,
June 2	136	Pug	M	6 weeks	Good	For chorea	1½	6	—
,, ,,	137	,,	F	6 ,,	,,	,, ,,	1½	7	—
,, 4	138	Fox terrier	M	3 years	,,	Remove tumours	3	4	—
,, 11	139	Wire-haired ter.	—	4 ,,	,,	Operation on ear	5	15	—
,, ,,	140	Fox terrier	M	—	,,	—	4	30	1 dr. 20 ms.
,, 12	141	,, ,,	,,	—	—	To examine ears	5	2	—
,, ,,	142	Retriever	,,	aged	Good	Remove anal adenoma	5	10	—
,, ,,	143	Schipperke	F	8 years	Fat and asthmatical	Reduction of hernia	3	33	3 drachms
,, 17	144	,, ,,	,,	4 months	Good	Amputation	2	34	1 dr. 50 ms.
,, 21	145	Manchester ter.	,,	aged	,,	Removal of tumours	1	7	—

For the following thirty-five cases I am indebted to Mr. J. Shepherd, M.R.C.V.S., of Barnet, who kindly placed them at my disposal. They were anæsthetised consecutively by Mr. Shepherd without any mishap or sign of danger occurring, the animals not being in any way previously prepared.

No.	Breed.	Sex.	Age.	Condition.	Time before anæsthetised.	Time kept under.	Amount Chloroform used.
					Minutes.	Minutes.	
1	Fox terrier	F	6 months	Poor	3	22	1 dr. 40 mins.
2	Spaniel	,,	3 years	Good	—	23	3 drachms
3	Fox terrier	M	2 ,,	,,	2	13	1½ drachms
4	,, ,,	,,	aged	Poor	1	14	80 minims
5	,, ,,	,,	3 years	,,	2	17	1 dr. 20 mins.
6	Collie	F	18 months	Good	4	16	,, ,,
7	Fox terrier	M	3 years	Poor	2	25	1½ drachms
8	,, ,,	,,	2 ,,	,,	3	12	1 dr. 10 mins.
9	Mongrel	F	2 months	Good	2	15	1 dr 25 mins.
10	Manchester terrier	M	1 year	,,	2	13	1 drachm
11	Fox terrier	,,	18 months	Poor	2	13	1 dr. 20 mins.
12	Retriever	,,	3 ,,	Good	4	7	1 drachm
13	Wire-haired terrier	F	18 months	,,	3	10	1 dr. 10 mins.
14	Collie	M	aged	Fat	6	19	1 dr. 50 mins.
15	Manchester terrier	,,	,,	,,	1	14	1 dr. 40 mins.
16	,, ,,	,,	18 months	Good	4	9	1 drachm
17	Collie	,,	2 years	Fat	7	17	2½ ,,
18	Manchester terrier	F	3 months	Poor	1	6	45 minims
19	Retriever	M	2 years	,,	2	12	1½ drachms
20	,,	F	8 months	Good	4	7	1 ,,
21	Fox terrier	M	2 years	,,	2	11	1 dr. 10 mins.
22	,, ,,	F	3 months	,,	3	13	1 drachm
23	Old English sheep dog	M	18 ,,	,,	5	12	2 ,,
24	Fox terrier	F	1 year	,,	2	20	1½ ,,
25	Wire-haired terrier	M	2 ,,	Poor	3	12	1 dr. 10 mins.
26	Retriever	,,	2 ,,	Fat	5	12	1 dr. 50 mins.
27	,,	,,	8 months	Good	3	14	1 dr. 20 mins.
28	Manchester terrier	F	3 years	,,	2	15	,, ,,
29	Spaniel	M	2 ,,	,,	4	16	1½ drachms
30	Fox terrier	F	6 months	,,	2	13	1 ,,
31	Wire haired terrier	M	1 year	,,	2	10	1 dr. 20 mins.
32	Fox terrier	,,	2 ,,	,,	3	11	1 dr. 10 mins.
33	Wire-haired terrier	F	6 months	,,	4	11	1 drachm
34	Spaniel	,,	12 ,,	,,	3	8	50 minims
35	Wire-haired terrier	,,	18 ,,	,,	4	11	1 dr. 10 mins.

The following cases were anæsthetised by means of the second pattern of apparatus which forces a current of air over the surface of the anæsthetic, and so sends on a mixed vapour into the mask:

Date.	No.	Breed.	Sex.	Age.	Condition.	Operation.	Time before anæsthetised	Time kept under.	Amount Chloroform used.
							Mins.	Mins.	
Oct. 22	1	Fox terrier	F	6 years	Good	Remove eyeball	3½	5	..
,, 26	2	Collie	M	12 weeks	Poor	For amaurosis	5	9	..
,, 31	3	Fox terrier	F	7 years	Good	Tumefied flap	3	7	1½ drachm
,, ,,	4	,, ,,	M	3½ ,,	Very fat	To reduce dislocation	3	10	1 dr. 12 mins.
,, ,,	5	Wire-haired ter.	F	8 months	Good	To examine	3	13	..
Nov. 16	6	Retriever	M	18 ,,	Poor	,,	10	11	..
,, ,,	7	Bull dog	F	5 years	,,	Ovarectomy	5	23	2 dr. 10 mins.
,, 17	8	Fox terrier	,,	11 ,,	,,	..	3½	6	1 drachm
,, ,,	9	,, ,,	M	2 ,,	Good	..	3	5	2 ,,
,, 18	10	Collie	,,	4 ,,	,,	Removal of tumour	7	15	2½ ,,
,, 23	11	Fox terrier	,,	18 months	Very poor	Laparo-enterectomy	3	40	2 dr. 50 mins.
,, ,,	12	French poodle	F	3 years.	,, fat	Ovarectomy	3	38	2 drachms
,, 24	13	Retriever	M	15 ,,	,, ,,	To dress wounds	8	—	..
Dec. 1	14	Fox terrier	,,	2 ,,	,, ,,	,, ,,	7½	10	2 dr. 20 mins.
,, 2	15	,, ,,	,,	9 ,,	,, ,,	Castration	5	7	1 dr. 45 mins.
,, 4	16	,, ,,	,,	3 ,,	,, ,,	,,	3	4	..
,, ,,	17	Spaniel	,,	aged	Good	Amputation of tibia	4	33	2½ drachms
,, 3	18	Collie	,,	,,	,,	Castration	6	4	1 ,,
,, ,,	19	Fox terrier	,,	2 years	Poor	Operation on stifle	4½	10	2 ,,
,, 5	20	Wire-haired ter.	,,	aged	Good	..	1¾	5	1 ,,
,, ,,	21	,, ,,	F	3 years	,,	..	3	5	..
,, ,,	22	Collie	,,	2 ,,	,,	..	6	10	2½ drachms
,, ,,	23	,,	,,	aged	,,	..	7	6	1 dr. 45 mins.

Date.	No.	Breed.	Sex.	Age.	Condition.	Operation.	Time before anæsthetised	Time kept under.	Amount Chloroform used.
							Mins.	Mins.	
Dec. 5	24	Collie	F	4 years	Good	—	4½	5	1 dr. 55 mins.
,, 12	25	Fox terrier	,,	aged	,,	—	3½	21	3 ,, 50 ,,
,, ,,	26	Collie	M	2 years	,,	—	7	10	1 ,, 20 ,,
,, ,,	27	Pug	,,	3 ,,	Poor	—	1½	22	1 drachm
,, 14	28	Blenheim spaniel	,,	3 ,,	Fair	To reduce dislocation	2½	20	1 dr. 50 mins.
,, 19	29	Manchester ter.	,,	aged	Very fat and asthmatical	—	2½	10	50 minims
,, 30	30	Fox terrier	F	2 years	Fat	To examine ears	9	11	3 dr. 45 mins.
,, ,,	31	Collie	M	aged	Good	—	6	12	3 ,, 30 ,,
Jan. 1	32	Pug	F	7 months	Fat	—	5	7	1 ,, 20 ,,
,, 5	33	Fox terrier	M	4 years	,,	—	5	6	1 ,, 50 ,,
,, 8	34	Retriever	F	aged	Good	Operation on leg	2	10	—
,, ,,	35	Fox terrier	,,	2 years	,,	Reduction of hernia	5	48	3 drachms
,, ,,	36	,,	,,	,, ,,	,,	,, ,,	4	16	—
,, 11	37	Bull dog	M	aged	Poor	Removal of tumour	—	25	—
,, 28	38	Fox terrier	,,	3 years	Good	Castration	4	7	1 dr. 20 mins.
,, 30	39	,,	,,	12 ,,	,,	Removal of tumour	4½	12	2 drachms
Feb. 1	40	,,	,,	8 months	,,	—	4½	15	,,
,, 8	41	Italian greyh'nd	F	12 ,,	,,	—	2	6	—
,, 9	42	Fox terrier	M	--	,,	—	5	5	—
,, 10	43	Retriever	,,	10 years	,,	—	5	8	3 drachm
,, 11	44	Manchester ter.	,,	aged	Fat	Operation on throat	3½	64	3 ,,
,, 13	45	,, ,,	,,	3 months	Good	Excision membrana nictitans	3	8	1 ,,
,, ,,	46	Bull terrier	,,	10 months	,,	Amputation of rectum	5½	18	
,, 15	47	Fox terrier	,,	3 years	,,	Operation on ear	2	15	1 dr. 25 mins.
,, 16	48	,, ,,	,,	2 ,,	,,	,, ,,	6	8	—
,, 18	49	Bulldog	F	2 ,,	,,	Removal tumour	6	10	—
Mar. 3	50	Toy Manchester terrier	M	aged	,,	—	2	8	—
,, ,,	51	Fox terrier	F	aged	,,	To examine	3	5	—
,, ,,	52	Irish terrier	M	9 months	,,	Reduce fracture	3	4	—
Apl. 6	53	Fox terrier	,,	12 ,,	Very fat	—	4	29	—
,, 12	54	Retriever	,,	14 years	Good	—	5	17	—
,, 13	55	Collie	,,	1½ years	,,	For amaurosis	5	40	—
,, 15	56	Fox terrier	,,	—	..	—	3	12	—
,, 17	57	,, ,,	,,	2 years	Good	—	3	10	—
,, ,,	58	,, ,,	,,	7 months	,,	—	1	14	—
,, ,,	59	Retriever	,,	12 ,,	,,	—	4	10	—
,, ,,	60	Collie	F	2 years	Poor	—	4	10	2½ drachms
,, 20	61	St. Bernard	M	3 months	Good	Reduction of hernia	5	34	4 ,,
,, ,,	62	Fox terrier	F	18 ,,	,,	To examine ear	3	4	—
,, 30	63	,, ,,	M	4 years	,,	—	3	8	—
May 12	64	Collie	,,	3 ,,	,,	—	5	42	—
,, 15	65	Spaniel	F	aged	,,	Removal of tumours	5	38	—
,, 29	66	Fox terrier	M	18 months	,,	—	2	5	—
,, ,,	67	,, ,,	,,	12 ,,	,,	—	2	3	—
,, ,,	68	Retriever	,,	8 years	,,	—	3	2	—
,, ,,	69	Fox terrier	,,	4 ,,	,,	—	3	5	—
,, ,,	70	,, ,,	,,	aged	,,	—	3	4	—

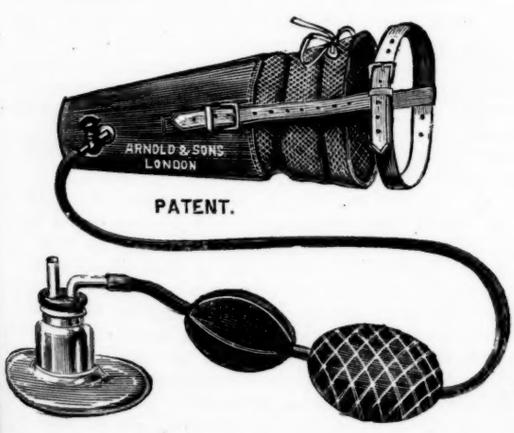

Fig. I.—Shewing the arrangement of the bellows whereby air is *sucked* over the surface of the anæsthetic and the mixed vapour steadily forced into the mask on the patient's face.

Fig. II.—Shewing the arrangement of the bellows whereby air is *forced* over the surface of the anæsthetic and the mixed vapour thus steadily forced into the mask on the patient's face.

In summing up the foregoing cases, in which one death only has occurred out of the 250 administrations (and that one which might readily have occurred merely from struggling had no anæsthetic been used) I think it may be fairly concluded that the dog is by no means a bad subject for chloroform. The danger occurs when the chloroform is improperly administered; if chloroform be given without proper dilution of air, or in any way irregularly, then it is quite easy to cause death. I have been able to prove this many times by observations made upon dogs with all the usual known methods of administration. In several instances, where animals have had to be destroyed, we have forced the bellows of the inhalation apparatus as much as possible for as long as half-an-hour without attaining the desired result, but when access of air has been prevented and chloroform applied in a concentrated and irregular manner, respiration has ceased within a very short time. Great care in securing the animal must always be taken, care being taken to avoid pressure upon the chest or abdomen and to place the patient in such a position that the heart and lungs may have full play.

It is necessary to proceed more cautiously with very young animals of all breeds, especially the smaller ones. Animals poor in condition are usually much better subjects (unless, of course, very weak) than those that are fat and aged. In a hot temperature it must not be forgotten that the vapour evaporates more rapidly than in a cold one, so that rather more care must be taken to prevent any fear of overdose.

Upon the first sign of danger antidotes should be given and these should always be placed ready for use by the anæsthetist's side. Of these there are many to choose from but I think that the best ones are Scheele's hyrdocyanic acid (a full medicinal dose applied to the back of the tongue from a drop tube), liq. ammon. fort. to the nostrils, and artificial respiration performed on the left side by pressing the ribs with the fingers in a short sharp jerky manner.

HEREDITY IN ITS RELATIONS TO THE DISEASES OF ANIMALS.

Abstracts of discussion at the Reading meeting of the National Veterinary Association.

The PRESIDENT: I now call upon Mr. King to open the discussion on Professor Dewar's paper.

Mr. G. E. KING said, I must first of all thank Prof. Dewar for the paper he has read. He has treated the subject exhaustively, and in the latter part of his paper interestingly. But in some respects the paper is disappointing; we do not get sufficient of Professor Dewar's own opinion in it, it lacks definiteness, and, I am afraid, sufficient "grip" is not afforded to provoke a good discussion. Professor Dewar says that "in these latter days of advancement and discovery, where a cause is looked for every effect, a belief in the influence of heredity is being banished as being too hypothetical;" and yet in the next sentence he remarks that "as the result of the work of biologists more and more influence is being ascribed to heredity or inheritance. These observations do not coincide.

No exception can be taken, I think, to the definition of heredity which is given. Herbert Spencer defines heredity as "the capacity of every plant and animal to produce other individuals of a like kind."

The terms heredity and congenital have been often used synonymously and misapplied, and I think the Professor is to be commended for drawing attention to this. It is important to clear the matter up, and start in the first instance by knowing exactly what is to be talked about.

And now we come to the all-important question, the point upon which the whole subjects turns. "Why is it," it is asked, "that a microscopic animal cell, a minute part of living protoplasm, should exercise such an enormous, such a far-reaching influence in the ultimate development of the individual? Is there no possibility of obtaining a closer or more intimate knowledge of how this influence is exerted than by saying 'like begets like,' or rather 'like tends to beget like?' that each individual tends to develop in the likeness of his progenitors?" This is the knotty problem which requires solving.

After a careful *résumé* of the hypotheses relating to the subject, the same question is asked in another form on page 5: "How the ancestral characteristics lie hidden in the germ-cell to be developed in the new individual is a problem still awaiting solution;" and again on page 7, "How is such a minute particle of matter able to convey almost unaltered qualities, forms, and characteristics with the certainty of a universal law?" And it is added, "The question cannot be answered in the present state of our knowledge."

Apparently Professor Dewar is not prepared with an answer to these questions himself, and has no great hope of any ultimate solution of the problem by others. He says, "The closer we get to the crucial point the further we diverge from ascertained fact, and the more we rely upon doubtful hypotheses."

This is too pessimistic. In this regard Weissmann's writings and experiments, although treated with contumely in some quarters—Mr. Jonathan Hutchinson refers to Weissmann's logomachy—have done good by directing thought into channels which but for his work would not otherwise have been taken; for, as Whewell, the historian of inductive sciences, remarks, "hypotheses may often be of service to science even when they involve a certain portion of incompleteness and even of error."

With respect to the inheritance of acquired characters, it is necessary, before committing ourselves to an opinion, to understand exactly what Weissmann means by the term *acquired characters*. He says, "By acquired characters I mean those which are not performed in the germ, but which arise only by special influences affecting the body or individual parts of it." "Somatogenic variations are not transmissible; every permanent variation proceeds from the germ, in which it must be represented by a modification of the primary constituents." Later on I shall show Weissmann qualifies this sentiment. Somatogenic variations he divides into three classes: 1, injuries; 2, functional: 3, variations due to environment.

The transmission of these can only be accounted for by assuming that the soma or body of the individual changed by external influences could modify the germ-plasm so that the progeny would from germ onwards undergo similar modifications.

There are two ways to account for this: definite tracts along which the variation could be conveyed to the germ-cells; or else that gemmules similar to those conceived by Darwin are given off by each somatic cell and conveyed to the germ-cells by circulation, and incorporated into the germ plasm. The former of these Weissmann ridicules; and the latter he says is negatived by the fact that the idants receive no addition to their organised bodies, the primary constituents.

Mr. Jonathan Hutchinson defines "acquired" as "all that has been received by modification of vital pro-

cessses, not what has been imposed or taken away by external violence."

Upon the inheritance of acquired characters we have strikingly diverse facts. Weissmann's experiments upon mice, which, although continued to the nineteenth generation, have given negative results; cutting off tails had no influence on the tails of descendants. A similar result was obtained by Ritzema Bos and Rosenthal upon rats. On the other side, we have the case mentioned by Darwin of the old English sheep-dog. Under the old excise laws the shepherd dog was only exempt from taxation when without a tail, and for this reason it was always amputated. The bob-tailed dog remains as a distinct breed to this day. I do not know the history of the Manx cat, but some years ago I possessed a female cat of that variety; she had several lots of kittens by the common cats of the neighbourhood; some were like herself tailless, others had short tails and tails of various lengths, but I do not remember one of the whole lot of the kittens whose tail was the ordinary lenth. Some years ago two tailless cats were exhibited at a congress of German naturalists, in which the absence of tails was supposed to be due to their mother having accidentally lost her tail.

I think the allusion in the paper to the Lamarckian doctrine as accepted in a modified form by Darwin is rather calculated to convey a wrong impression. So far as I can follow the intricacies of the subject, the ideas of Darwin and Lamarck are totally opposed to one another.

Lamarck supposed that when an organ or limb was excessively used, it developed and gradually became bigger and stronger, and each generation transmitted the accumulated results to its progeny, so that in the course of time the organ became extraordinarily developed, as in the case of the giraffe, by craning its neck for the leaves of trees. In the course of generations the neck became extraordinarily long as we see it at the present day. Darwin accounts for the development in quite another way. The neck of the giraffe has evolved to its present proportions. Amongst each generation of giraffes there were some with longer necks than others, just as some men have longer necks than others. These animals were able to obtain their food more easily and in greater quantity, and were better adapted to the circumstances under which they lived, and so were long lived, and being the fittest and strongest survived in the struggle for life, and so constituted the prevailing type. We have only to go on to any farm where a number of animals are being fed, and to watch them to see which of them are masters of the situation, and most likely to influence future generations. The poor weaklings are driven away, and unless special care is taken of them, they do not thrive and develop as their stronger fellows who get more food do; and if in addition an accident had happened to any one of them this animal would be further handicapped, less likely to obtain food, and consequently less likely to bear or beget robust offspring. In a consideration of the subject it is not possible to exclude the effect of extrinsic causes, and Weissmann himself somewhat grudgingly admits "that there are some cases, such as the climatic varieties of certain butterflies, which raise some difficulties. I myself some years ago experimentally investigated one case, and even now I cannot explain the fact otherwise than by supposing, as I did then, that somatic variations are transmissible." And again, he says, "the view of the non-inheritance of acquired modifications has been especially opposed in America, principally by palæontologists. It can certainly not be denied that certain facts in palæontology, such as the development of the feet and teeth in Ungulates, furnishes us with an extremely fine and uninterrupted series of forms, which may apparently be easily explained on the assumption of the inheritance of acquired modifications." Upon the inheritance of habits I can give an instance from my personal experience. Some two years ago I possessed a wire-haired terrier. The father of this dog had two peculiar habits; one was the way of sitting. He did not sit squarely upon his haunches as other dogs, but the weight was thrown upon the right side, with the right hind leg drawn under the body to the left side almost straight—in fact, he sat upon the right quarter, but *never on the left*. The other one was that when out with a lady he would always take the skirt of her dress and carry it in his mouth; he would bark furiously, and nothing would pacify him until allowed to do so. His daughter sat in exactly the same way as her father, and when quite a puppy the first time she was taken out by a lady she took up the dress, and walked with it in her mouth in exactly the same way as her father did. Both these habits continued with her the whole of her life. The father and daughter lived some miles apart, and had no communication with each other. Another peculiarity she inherited from her mother, which was the direct cause of her mother's death, viz., a rooted antipathy to riding in a trap; she would jump out, no matter how fast the vehicle was going or how high it was, as soon as one's attention was diverted for a moment.

In passing from the theoretical or physiological, which is after all more or less speculative, to the more interesting and practical pathological aspect of the subject, I am unfortunately too often in accord with Prof Dewar on most of the points he touches to be captiously critical. I would especially congratulate him upon the stand he has taken upon the question of the inheritance of tuberculosis. Surrounded as he is by an atmosphere of bacteriology and contagious theories, he is content to remain in the ordinary rut, and not become fashionable. I will touch upon this subject directly.

How is disease transmitted? I would answer this question by asking another. Is disease as we generally accept the term, *i.e.* disease *per se*, transmitted at all? The predisposition or tendency to disease is hereditary, not the disease itself. We all know that each part of the economy, intellectual or physical, is controlled by the brain or nervous system. And I believe this predisposition or tendency is explained by the transmission of certain conditions of the nervous system controlling the nutritive processes of the different parts of the body. This condition may be *plus* or *minus*, a deficiency or an excess of vital energy or nervous power, and may work out well or ill for its possessor. If there is a deficiency of nervous power in any particular part or organ, say the lungs, the lungs are naturally weak and susceptible to disease—consumption for instance. If the stomach or bowels are *minus* of proper nerve-supply, we have a tendency to gastric or intestinal disorders, indigestion, colic, etc. If the brain itself is deficient we may have insanity or epilepsy in some of their various forms. On the other hand, there may be excess, when a more than ordinary development of the part would result; if muscular it enables its possessor to perform feats of endurance, or strength, or speed. If of some portion of the brain we may have a genius of one kind or another, a Mozart, a Rubens, a Shakespeare, a Napoleon. But abnormal or excessive development of one part is usually accompanied by a corresponding deficiency in other organs. Shakespeare, although towering in intellect, was physically weak.

On page 13 the question of immunity following infective diseases is touched upon. Prof. Dewar says, "Supposing the individual to be pregnant, the immunity is often shared by the offspring—the then existing embryo. In that case the immunity must be conveyed by the circulating fluid. But it will be said, this individual must presumably have suffered from an attack of the infective disease *in utero*. Granting the likelihood of this, the immunity does not always stop at the first generation; it is continued to the second, "and in that case the re-

productive cells of the organism must have been influenced through the soma." There is a very instructive article bearing on this subject in the March, 1896, number of the *Journal of Comparative Pathology*. It is from the annals of the Pasteur Institute, by Vaillard. The author recounts the very divergent views on the subject, and deals exhaustively with the experiments and observations made upon small-pox, cow-pox, sheep-pox, anthrax, black quarter, tetanus, cholera, etc., by himself, Ehrlich, and several others. After carefully reviewing the results he comes to the following conclusions.

1. The mother only is in a position to communicate immunity.
2. The father never transmits immunity to his progeny.
3. The immunity received from the parent is always very transient, always of brief duration; it is retained only during the first few months of life. Ehrlich comes to almost the same conclusions.

Mr Jonathan Hutchinson, in an essay on the laws of inheritance in disease in 'Albutt's System of Medicine' (1896), under the heading "Transmutation in Transmission," points out that a disease or defect is not always reproduced in exactly the same form as it existed in the predecessor. He says "what is hereditary is a liability to disturbance in the development of certain portions of the protoplasm, but falls short of the necessary production of identity of result. This law is capable of wide application under circumstances in which it is not so easy to prove its influence. In the various forms of skin disease it may be conjectured that a liability to defective formation of skin in general is the antecedent, rather than a definite proclivity in one single type of malady. Thus inheritance from a parent who has suffered from psoriasis may possibly be transmitted as ichthyosis or some form of chronic eczema or lichen. Many of the known facts as regards family diseases support the belief that one law of unity in variety influences their production." Thus in the various forms of osseous deposit an inheritance from a sire affected with ringbones may possibly be transmitted as splints or spavins. When the tendency to throw out bony material exists I have frequently noticed it is not confined to one particular part or limb. I have recently had cases in which spavins and knee-splints were associated,—spavins and periostitis in fore-limb, spavin in both hocks and ringbone. The question of susceptibility and immunity is very much influenced by heredity.

I think we cannot supply a better analogy in speaking of pathogenic germs and animal bodies than a potential seed and proper soil. When cultivated outside the body germs display a partiality for certain media or soils, and germinate and develop better on some than others. Surely it is reasonable to presume if they show this disposition in one case that is outside the body, they will do so in another, inside the body, for what is the animal body but the medium upon which the germs or seeds grow? As Professor Dewar has pointed out, an outbreak of strangles or influenza rarely attacks all the animals in a stable; sometimes the animal standing next to the first one affected escapes, although there can be very little doubt the germs of the disease must have entered the system.

We probably all of us every day come in contact with some pathogenic germ or other, either in the air we breathe, the water we drink, or the food we eat, and I think the fact of most escaping goes to prove the soil or the body is not in a receptive condition, and this has a great deal to do with the liability to contract disease. There is always a percentage of those exposed to infection who enjoy immunity; is it not just possible that the effect of the microbe is over-estimated, and hereditary predisposition not sufficiently taken into account? Corn when planted in virgin soil grows vigorously and yields more prolifically than upon soil which has been cropped for years. The same rule applies to germ diseases—small-pox, for instance, when introduced among savage races is terribly fatal. Amongst older civilised communities it is not nearly so dangerous, simply because it has had a long run amongst the latter, and the soil has become more or less exhausted. but on the virgin soil the harvest is a dreadful one.

Tuberculosis, since the last meeting of the Association, has been more to the front than any other question. It is fashionable now to consider the disease a purely contagious one. I think hereditary influences have a marked effect upon the ætiology of the disease. At the present time I suppose no one will dispute that the presence of the bacillus is necessary before the disease can develop. At the same time, others contend that the germ does not play the all-important part claimed for it by the contagionists. Is it not essential that there should be general or local lowering of vitality, or some disturbance of the system due to hereditary predisposition, before the bacillus can develop? I think the bacillus is virtually powerless without this state of the system exists. There are, I think, two factors operating in this disease: the bacillus, and the state of the system in which it is implanted, inherited from one of the animal's parents. Mr. Jonathan Hutchinson, in his paper on the laws of inheritance before mentioned, says: "The possibilities of inheritance are twofold. The bacillus may pass bodily or potentially into sperm or germ cells from parent to child. Or that a condition of tissues liable to its attacks, but for the time free from its presence, may be the result of transmission. And again, "Pathological facts leave no doubt the bacillus may find "its way into the body of fœtus *in utero* and there develop. Whether it does so in connection with semen or in union with the maternal germ, or whether it is always derived by the ovum from mother's blood, we are as yet uninformed. Any one of these three modes is an easy possibility." Before the contagionists can give any appearance of authority to their assertions they must be able to tell us more about the bacillus. Its life history is not known; it may possibly undergo several changes, neither has the time it may remain latent ever been ascertained.

Parturient apoplexy.—The milking properties of cows are admittedly hereditary. I have several times noticed the appearance of this disease in members of the same family. Prof. Dewar has not mentioned this, and only just casually alluded to roaring, one of the most important of the diseases that are due to hereditary causes,

Sidebones.—I agree with Prof. Dewar that sidebones are transmissible, but I am opposed to the opinion he expresses that sidebones are generally due to the practice of shoeing with calkins. Calkins are seldom or never used in this part of England, and yet I am afraid sidebones are almost as prevalent here as in Scotland. Whenever our advice is sought regarding the selection of animals for breeding purposes, I am strongly of opinion it should always be our duty to advise, never to breed from an animal showing any tendency to hereditary disease, no matter whether the disease in question tuberculosis, spavin, or sidebone.

There are one or two important diseases which are not included in the list given by Prof. Dewar, notably cataract and laminitis. The latter disease I have not been able to trace to hereditary causes myself, but I know there are practitioners who hold a contrary opinion. Breakdown in race-horses would, I suppose, come under the head of sprains due to hereditary conformation. In conclusion I would again thank Prof. Dewar, and wish I could have done both his paper and the subject more justice, but the short time at my disposal and the exigencies of a country practice must be my excuse for the shortcomings of my remarks. I had no intention when I first considered the subject of trespassing so long

upon your time, but it is extremely difficult to decide what to bring forward and what to withhold. Gentlemen, I thank you for the patient hearing you have given me.

(To be continued).

NORTH OF SCOTLAND. VETERINARY MEDICAL SOCIETY.

We noticed in our last a meeting of the members of this Association at Aberdeen on the 28th ultimo. At the close of the ordinary meeting, a special meeting was held for the purpose of reading and adjusting rules, proposing new members, and electing office bearers for the ensuing year. Mr. C. Baxter, V.S., Elgin, and Mr. Crabb, Aberdour, were proposed new members of the Society. The following members were elected office-bearers for the ensuing year :—

President—Mr. Anderson, Keith, re-elected. Vice-presidents—Mr. Young, Aberdeen ; Mr. Seivwright, Tarland, re-elected. Members of Council—Mr. Paterson, Cluny ; and McBride, Stricken, re-elected, Messrs. M'Gregor, Kintore ; Howie, Alford ; Mellis, Inverurie ; Marsden, Banff ; and Thompson, Aberdeen.

Mr. Skinner, Oldmeldrum, who has ably carried on the work of secretary since the Society was instituted, gave in his resignation, as also did Mr. Wood, Turriff, who has been for some time acting as treasurer to the Society. Mr. W. M'Pherson, Huntly, was appointed secretary and treasurer.—*Banffshire Journal.*

ARMY VETERINARY DEPARTMENT.

The names of the following veterinary officers are given in connection with the Afridi Expedition :—

Vet.-Col. Glover, Inspecting Veterinary Officer, Staff of the Tirah expedition.

Vet. Capt. Mann, Staff of 1st Brigade of 1st Division.

Vet.Major Wilson, 2nd Brigade of 2nd Division.

Vet.Capt. Forsdyke, Line of communications.

Vet.-Lieut. Carr, the Peshawur Column.

Vet.-Lieut. Tatam, the Kuram movable column.

Vet.-Lieut. Anthony, the Reserve Brigade at Rawalpindi.

OBITUARY

THOMAS LEATHER, M.R.C.V.S., Liverpool.
Graduated, March, 1875, Lond.

On September 15th the remains of Mr. Thomas Leather, who died at his residence, 32 Great Mersey Street, in the 44th year of his age, after a long illness, were interred at Anfield Park Cemetery. The deceased was a member of the firm of Joseph Leather & Sons, veterinary surgeons, of this city, and was well known and highly respected. The chief mourners were Messrs. Arthur Leather, F.R.C.V.S. (brother), Bertie Leather (nephew), Wallace Smith (brother-in-law), John Hill (nephew), J. M'Laren, M.R.C.V.S. (partner), W. W. Smart, W. Truman, W. B. Reynolds, C. W. Sutton, E. Rigby, and C. Mowbray.—*Liverpool Mercury.*

The Gillette Clipping Machines.

It will be seen from our advertisement pages that these machines are again on the market, in the hands of Messrs. Barton Bros., of 42 Grays Inn Road. So far these machines have proved an almost unqualified success, far in advance of anything else of the sort.

CORRESPONDENCE.

MEAT INSPECTION.

Dear Sir,

Will you kindly inform me through the medium of *The Veterinary Record* whether the veterinary inspection of meat is solely in the hands of the veterinary inspector under the C. D. (Animals) Act. I am not quite sure whether by the recently passed Public Health (Scotland) Act a meat inspector may be appointed apart from the inspector already appointed under the C. D. (Animals) Act. I think that the great plums of veterinary practice will be in the hands of the few inspectors if they can claim sole right to meat inspectorship together with all the cases they will have to see under the Compulsory Notification Order of Infectious Diseases. This last Act is the cause of much friction in the medical profession, and I have no doubt it will equally apply to the veterinary profession. Why should not every veterinary surgeon be inspector to his own client.—Yours truly,

"OUT IN THE COLD."

FEMALE VETERINARY SURGEONS.

Sir,

Though the vexed question of granting diplomas to women seems for the time being to be in abeyance, yet perhaps your kindness will find space for these remarks on the subject (imperfect though they be) in the columns of your journal.

Viewing the subject entirely dispassionately it appears to me that veterinary surgery is of all the learned professions the one least adapted for women. If the practice of veterinary surgery consisted in making a round of visits among lap-dogs, or drawing room pets of that description, and simply diagnosing their diseases and giving advice as to dieting and general hygienic conditions, and writing a prescription or even dispensing the necessary medicines, then, and only then, the profession *might* be a suitable one for women possessed of any delicacy of feeling. But as we all know there is no such practice as the above to be found in the United Kingdom ; and even if the female practitioner were to confine herself entirely to canine and feline practice, yet she is bound to meet with certain operations in the pursuit of her calling which must (or perhaps in view of the new woman I had better say should) be utterly repugnant to any one possessing what is the greatest charm of any true woman, namely, modesty. No lady—using the word in its true sense—would like to perform those operations which are the almost daily work of the veterinary practitioner, especially when we take into consideration the fact that male asaistance in securing the patient is practically indispensable. Of course if a woman is prepared to unsex herself completely and to throw to the four winds all feelings of modesty and delicacy there is no reason why she should not become a successful practitioner of veterinary surgery even among the larger animals ; but all who know what the nature of veterinary practice is will, I am sure, agree that unless prepared to do this no woman can hope to practice with any degree of pleasure, to say nothing of success.

Another point which from a business point of view women would do well to consider, is this. Whether the general public would place confidence sufficient in them to employ them to such an extent as to make the profession a remunerative one to them. It hardly on the face of it seems likely that such would be the case, and in view of this the action of the Royal College of Veterinary Surgeons though perhaps appearing (to women) somewhat arbitrary is in reality a kind one, as by refusing to admit female candidates to its ranks it is saving them the labour and expense of acquiring diplomas which would practically be valueless to them.

If women, instead of seeking notoriety by any means in their power would be content to fulfil those duties for which they are fitted by nature they would not only secure a greater measure of true happiness to themselves, but would also be of incalculable service to their fellow creatures and ther native land.—I am, dear sir, yours faithfully,

FOSCO.

Several communications are unavoidably held over.

COMMUNICATIONS, BOOKS, AND PAPERS RECEIVED:—Messrs. F. Hobday, T. G. Palgrave, E. Wallis Hoare, P. M Walker, A. W. Briggs, J. Watson, G. S. Heatley, J. H. Carter, J. D. Miller, W. M. Scott, H. J. Dawes, J. E. Miller.
Prospectus of Agric. Dept. Glasgow and West of Scotland Technical College, The Liverpool Mercury, The Derby Express.

We shall be obliged by early intelligence of all matters worth bringing under the notice of the profession, and thankful to any friends who may send us cuttings from local papers, containing facts of interest.

Original articles and reports should be written on one side only of the paper, and authenticated by the names and addresses of the writers, not necessarily for publication.

Communications for the Editor to be addressed 20 Fulham Road, S.W.

Veterinary Societies—Addresses.

Alterations for this list must be duly notified by the Secretaries

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